CLAIMS

What is claimed is:

1. An explosive loaded projectile with reduced probability of accidental detonation when subjected to an unplanned thermal stimulus, comprising:

a body having a forward end, an aft region, and an inner surface;

a fuze comprising a threaded plug and secured to the forward end of the body;

an explosive disposed within the inner surface of the body;

a fuze adapter having an inner threaded surface and an outer threaded surface;

wherein the outer threaded surface of the fuze adapter is secured to the inner surface of the body; and

wherein the inner threaded surface of the fuze adapter is secured to the threaded plug.

2. The projectile of claim 1, wherein the fuze adapter is comprised of a cylindrical ring.

3. The projectile of claim 2, wherein the fuze adapter has a diameter of approximately 1.5 inches.

4. The projectile of claim 3, wherein the fuze adapter has a length of approximately 0.64 inch.

5. The projectile of claim 4, wherein the fuze adapter is made of ionomer plastic.

6. The projectile of claim 1, wherein the explosive includes an insensitive melt-castable explosive having a predetermined auto-ignition temperature.

7. The projectile of claim 6, wherein the fuze adapter is made of a material that has a melting point below the auto-ignition temperature of the explosive, such that during the unplanned thermal stimulus such the fuze adapter is melted upon reaching the melting point, prior to the explosive reaching the auto-ignition temperature.

8. The projectile of claim 7, wherein upon melting of the fuze adapter, the fuze becomes detached from the body, thereby allowing combustion gas generated by an explosive that has auto-ignited to vent out the body.

9. The projectile according to claim 8, wherein the body is secured to the fuze via a threaded opening.

10. The projectile of claim 9, wherein, as the unplanned thermal stimulus continues to heat the projectile, the explosive begins to burn upon reaching the auto-ignition temperature and to generate a combustion gas; and

wherein the combusting explosive expels the fuze from the body, thereby enabling pressure generated by the combustion gas to be relieved via the threaded opening.

11. The projectile of claim 1, wherein the projectile body is made of a steel shell having an ogival shape.

12. The projectile of claim 1, further including an obturating ring secured to the body.

13. The projectile according to claim 12, further including a tail fin.

14. The projectile of claim 13, wherein the body is secured to the tail fin via a threaded portion.

15. The projectile of claim 14, wherein the tail fin comprises a plurality of fins that maintain a flight path of the projectile.

16. The projectile of claim 15, wherein the tail section further comprises an ignition cartridge.

17. The projectile of claim 16, wherein the tail fin further comprises a plurality of vent holes.

18. The projectile of claim 17, wherein the tail section further comprises a plurality of propelling charge containers for holding a propelling charge; and

wherein upon firing of the projectile, the ignition cartridge is impacted to cause the propelling charge to combust inside the tail fin, which, in turn, causes the propelling charge outside the tail fin to combust and to generate a combustible gas and pressure to propel the projectile forward in flight.

19. A enclosure for packaging an explosive loaded projectile having a nose and a tail section, comprising:

a cylindrical fiber tube made including:

a stationary end cap; and

a removable end cap, wherein the tail section is positioned against the removable end cap to enable the projectile to be loaded and removed in a rearward manner;

a support ring securing the exterior surface of the projectile;

the fiberboard tube has an overall length that is longer than the projectile, so that a space is formed between the nose of the projectile and the stationary end cap of the fiber tube.

20. The enclosure of claim 19, wherein the projectile includes a fuze adapter and a body.

21. The enclosure of claim 20, wherein in the event of an unplanned thermal stimulus, the fuze adapter melts, allowing the fuze to become separated from the projectile body.

22. The enclosure of claim 21, wherein the support ring is formed of a plastic cylindrical shell with a circular flange that is peripherally located along the cylindrical shell.

23. The enclosure of claim 19, further including a container.

24. The enclosure of claim 23, further including an intumescent coating deposited onto any of an exterior surface or interior surface of the container.